



OPPORTUNITIES FROM CHINA'S ACCESSION TO THE WTO

Ohio

The U.S.-China Bilateral Agreement on China's accession to the WTO opens an important market to Ohio's exports, benefitting key industries and creating export and employment opportunities. The importance of exports to China and the benefits of the Agreement for Ohio and its key industries are outlined below.

State Export Profile

Ohio's exports to China totaled \$359 million in 1998—more than double the 1993 exports of \$173 million. China ranked as Ohio's 13th largest export destination in 1998, up from 14th position in 1993.

Ohio's exports to China are broadly diversified. Almost every major product category registered exports to the Chinese market in 1998. Moreover, the increase in Ohio's exports to China from 1993 to 1998 was broad-based, with many key sectors at least tripling exports to China.

Included in Ohio's exports to China are sales from Ohio's largest metropolitan areas: the Cleveland-Lorain-Elyria metro area (\$150 million) and the Greater Cincinnati area, which extends into neighboring Kentucky and Indiana (\$53 million).

A number of smaller Ohio metro areas posted strong growth in exports to China over the 1993–98 period: the Canton-Massillon area (up 535 percent); Columbus (up 259 percent); and Akron (up 102 percent).

Sector Snapshot

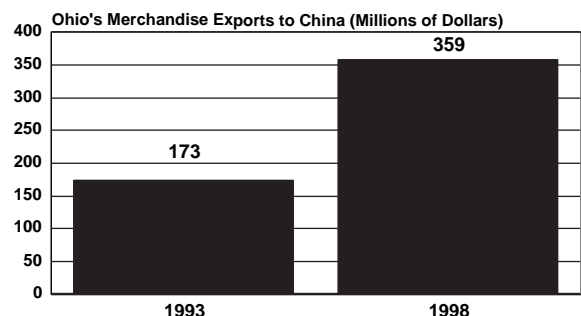
U.S. farmers no longer will have to compete with export subsidies on China's agricultural products. China has agreed also to eliminate sanitary and phytosanitary barriers that are not based on sound scientific evidence, such as the restrictions on meat, poultry, and wheat. In addition, exporters will benefit from broadening the right to import and distribute imported products in China and from tariff cuts on a wide range of products including dairy products, raw hides, and pork. China also will end its import monopoly for bulk commodities and establish large low-duty tariff-rate quotas for corn, wheat, and soybean oil. Soybean oil will be totally removed from state trading in six years.

As a result of the Agreement, Ohio's key export sectors benefit from reduced tariffs in China, strong intellectual property protection and improved trade rules protecting U.S. industries against unfair trade practices and removing burdensome obstacles, including:

- Tariff elimination for information technology products; furniture. Major tariff reductions for paper and wood products, power generation equipment, motor vehicles, auto parts, engines including civil aircraft engines, scientific and measuring instruments, laboratory equipment, medical equipment, pumps and compressors, metal working machinery, rubber, rubber working machinery, welding machinery, printing machinery, refrigerators, dryers, air conditioning equipment, prefabricated buildings, environmental technology equipment, agricultural equipment, food processing machinery, welding machinery, and construction equipment including heavy machinery.
- Low tariffs for most chemicals at WTO harmonization rates.
- Elimination of import restrictions for products such as civil aircraft, rubber, and construction and medical equipment.

The Agreement will open the market for a wide range of services, including telecommunications, banking, insurance, financial, professional, hotel, restaurant, tourism, motion pictures, video distribution, software entertainment distribution, periodicals distribution, business, computer, environmental, and distribution and related services.

**Ohio Increased Its Exports to China by \$186 Million
From 1993 to 1998**



Source: U.S. Department of Commerce, Exporter Location Series.

Key Industry Benefits

Scientific and Measuring Instruments

China will reduce its tariffs on scientific instruments from an average of 12.1 percent to 6.1 percent. Reductions will commence upon accession and will be completed by January 1, 2003, in equal annual cuts. If WTO members agree to and adopt the medical and scientific equipment sectoral initiative that originated in APEC, China has committed to join this initiative and eliminate its tariffs on these products. Tendering requirements for non-government purchases of scientific instruments will be eliminated within four years of China's WTO accession. Trading and distribution rights for scientific instruments will be phased in over three years. China has agreed to implement the Agreement on Trade-Related Aspects of Intellectual Property Rights upon accession to the WTO.

Chemicals

This sector includes chemicals and chemical products such as cosmetics, pharmaceuticals, agricultural chemicals, resins, and plastics. China will reduce average tariffs on chemicals by more than half to an average rate of 6.9 percent by January 1, 2005. All priority U.S. chemical exports, as well as all products in the Chemical Tariff Harmonization Agreement of the Uruguay Round (CTHA) are included in the tariff reductions. In addition, China will eliminate all quotas on chemical products by 2002. Trading rights will be phased in over three years from accession for most chemicals. China will not apply or enforce export performance or local content requirements as a condition for importation or investment approval. China has agreed to apply tariffs uniformly and all taxes equally to domestic and foreign chemical product businesses. This will alleviate the uncertainty associated with China's inconsistent application, refund, and waivers of its 17 percent value added tax.

Information Technology

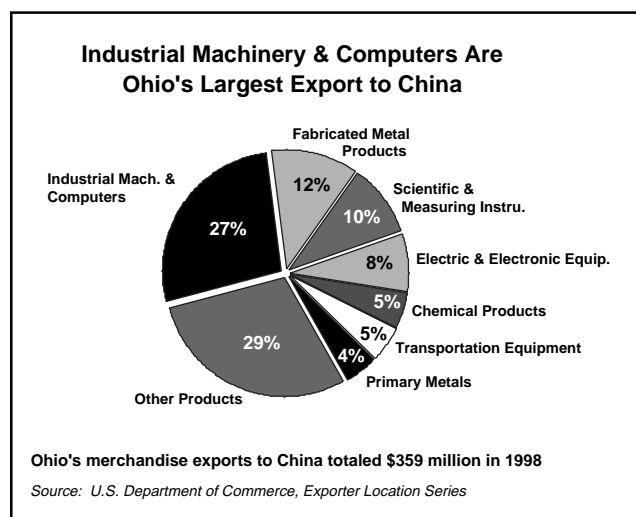
China will eliminate its duties for all information technology products, as defined by the WTO Information Technology Agreement (ITA), by January 1, 2005. These products include electronics, computers, fiber optic cable, and other telecommunications equipment. The current duties on information technology products average over 13 percent. All quotas on ITA products will be eliminated at the time of China's WTO accession. Within four years of its accession into the WTO, China will eliminate its tendering requirements for non-government purchases of ITA products. Trading and distribution rights for ITA products will be phased in over three years. China has agreed to apply tariffs uniformly and all taxes equally to domestic and foreign ITA businesses. This will alleviate the uncertainty associated with China's inconsistent application, refund, and waivers of its 17 percent value added tax. China has agreed that it will not condition import or investment approvals on technology transfer, or on conducting research and development in China.

Metalworking Machinery

China will reduce its tariffs on metalworking machinery to an average of 11.4 percent by January 1, 2004. Tendering requirements for non-government purchases of metalworking machinery will be eliminated within four years of China's WTO accession. Trading and distribution rights for metalworking machinery will be phased in over three years. China will not apply or enforce export performance or local content requirements as a condition for importation or investment approval. China has agreed that it will not condition import or investment approvals on technology transfer, or on conducting research and development in China. China has agreed to implement the Agreement on Trade-Related Aspects of Intellectual Property Rights upon accession to the WTO. China has agreed to apply tariffs uniformly and all taxes equally to domestic and foreign metalworking machinery businesses. This will alleviate the uncertainty associated with China's inconsistent application, refund, and waivers of its 17 percent value added tax.

Feed Grains and Products

China's grain policies are becoming more market-oriented and its WTO accession commitments will speed up this process, opening up real long-term opportunities for foreign grain suppliers. China committed to a nominal 1 percent tariff on all grains imported within a tariff-rate quota (TRQ). The TRQ on corn will be initially set at 4.5 million metric tons and grow to 7.2 million metric tons by 2004. Private traders will be permitted to handle 25 percent of imports under the TRQ, growing to 40 percent. In calendar year 1999, China imported 70,000 metric tons of corn from all countries. China's commitment to end export subsidies will reduce its price competitiveness for corn in other markets.



Dairy Products

China's dairy product consumption is rapidly increasing due to rising incomes and government promotion. China's milk production is also growing, but the domestic dairy sector is not expected to keep up with the growth in demand. Under its WTO accession agreement, China will cut its tariffs on selected dairy products by 2004. Specific reductions include: selected cheeses (from 50 percent to 12 percent); lactose (from 35 percent to 10 percent); and ice cream (from 45 percent to 19 percent). In recent years, the United States has supplied approximately one-fifth of China's dairy imports.

Pork

China consumes far more pork than any other country, but its trade barriers have effectively closed its market to imports. Under its WTO accession agreement, China will cut its tariff on frozen pork cuts and offal from 20 percent to 12 percent by 2004. There will be no quantity limits at these tariff levels. As a result of the 1999 U.S.-China Agreement on Agricultural Cooperation, China agreed to accept all pork from the United States that is certified wholesome by USDA.

Soybeans and Products

China is the world's largest growth market for soybeans and products, and has taken important steps under its WTO accession agreement to open its market to these products. Tariffs will be bound at a low 3 percent on soybeans and 5 percent on soybean meal with no quota limits. For soybean oil, the tariff will drop to 9 percent, and the tariff-rate quota and state trading will be eliminated by 2006.

Insurance Services

China will reduce geographic restrictions and quantitative limits for insurance companies and expand the

scope of business activities permitted for foreign insurers. China agreed to award licenses solely on the basis of prudential criteria. China has also agreed to grandfather the existing level of market access already in effect at the time of China's accession for U.S. companies currently operating in China.

Legal Services

Foreign law firms can establish profit-making representative offices to provide advice on international conventions and practices as well as on the law of other WTO members in which the lawyer is licensed. China has also agreed to grandfather the existing level of market access already in effect at the time of China's accession for U.S. companies currently operating in China.

Tourism Services, Including Restaurant Services

China will allow unrestricted access to the Chinese market for restaurant operators, including the ability to set up majority-owned restaurants upon accession and 100 percent foreign-owned restaurants in three years. China has also agreed to grandfather the existing level of market access already in effect at the time of China's accession for U.S. companies currently operating in China.

Trade Stories

InfoSight Corporation (Chillicothe) is a major exporter of industrial marking equipment, which is used to imprint bar codes into primary metals and rubber. This system allows steel mills and rubber manufacturers to track batch numbers for inventory and quality control. A large percentage of InfoSight's business is done internationally, and six of its large, customized machines have been sold to China.

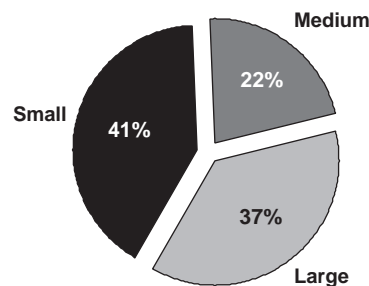
(Trade Stories continued on page 8)

ROLE OF SMEs IN EXPORTS TO CHINA

Small and medium-sized enterprises (SMEs) are responsible for a growing share of U.S. exports to China.

- In 1997, SMEs generated 35 percent—more than one-third—of all U.S. merchandise exports to China. This figure is up significantly from a 28 percent share in 1992.
- The 35 percent SME share of the China market in 1997 was higher than the SME share of overall U.S. merchandise exports (31 percent) in that year.
- More than three-fifths of all firms exporting from Ohio to China in 1997 were small or medium-sized enterprises (fewer than 500 employees).

Small & Medium-Sized Companies Account for 63 Percent Of All Firms Exporting From Ohio to China



479 companies exported merchandise from Ohio to China in 1997

Definitions: small = fewer than 100 employees; medium = 100-499 employees; large = 500 or more employees. Source: 1997 Exporter Data Base, U.S. Department of Commerce.

Overview of China WTO Accession Benefits to the United States

The Agreement is a one-way deal that will open China's now largely closed market to U.S. exports. By enacting Permanent Normal Trade Relations (PNTR), the United States is merely maintaining the market access policies it already applies to China. If Congress enacts PNTR, the agreement is expected to provide a substantial boost for U.S. exports. If Congress fails to pass PNTR, American companies, workers and farmers will be denied the great bulk of benefits of the agreement the United States already negotiated—including broad new market access for critical services such as telecommunications and distribution, strong import protections, and the right to enforce China's commitments through WTO dispute settlement. Failure to enact PNTR means fewer U.S. exports to China. U.S. competitors in Europe, Asia and elsewhere will gain market share at the expense of U.S. exporters as these countries will enjoy the full benefits of China's market opening WTO commitments.

Deep cuts for tariffs in manufactured products sectors¹ affecting most U.S. exports—averaging an across-the-board 60 percent cut in tariffs for industrial products. Important gains include a 62.5 percent cut in tariffs for pulp, paper and printed material and elimination of tariffs for information technology products including electronics, telecommunications equipment, and computer equipment.

Tariff bindings for every sector. U.S. industries gain greater certainty of access with China's commitment not to raise tariffs on any products above the negotiated ceiling (bound) rates.

Huge reduction in paperwork costs—a boon to smaller exporters. Simplification, harmonization of customs procedures and licensing will slash costs of processing export orders.

Elimination of quotas and non-automatic licenses for all manufactured products by year 2005. Only a handful of quotas will remain after year 2003. While quotas are being phased out, the quota level will be higher than our current export levels and will increase by 15 percent each year until the quota is eliminated.

By joining the WTO, China is committing to establish a tariff-only import regime for **agricultural products**; all non-tariff barriers will be eliminated. Any other measure, such as inspection, testing, and domestic taxes, must be applied in a manner that is consistent with WTO rules requiring a transparent and nondiscriminatory system. All health-related restrictions must be based on sound science.

China also committed to implementing **agriculture tariff-rate quotas** (TRQs) on economic rather than political criteria. These commitments are designed to ensure a transparent and consistent system for allocating shares of the TRQ to end users and provisions to

ensure that quota-holders are not impeded in utilizing their allocations.

China has committed not to use **export subsidies** for agricultural products when it joins the WTO. This commitment is particularly useful for China's potential exports of corn, rice, and cotton, which in the past have displaced U.S. product from third-country markets.

Bilaterally, China agreed to the terms for removal of scientifically unjustified restrictions on importation of U.S. **wheat and other grains, citrus and meat**.

Foreign exchange balancing requirements—which link a company's level of imports to its level of exports—will be eliminated upon accession. This allows U.S. companies to make market-driven decisions about what to import and export instead of decisions driven by the Chinese government.

Local currency banking will be allowed starting with foreign clients upon accession, followed by Chinese enterprises two years after accession and Chinese individuals five years after accession. Foreign currency business will be allowed without geographic restrictions upon accession. China currently limits foreign banks to foreign currency business in selected cities.

Foreign securities firms may currently only trade in a limited number of stocks designated for foreign investors and then only via shared commissions. Upon accession, China will allow foreign firms to trade these shares with no Chinese intermediary. By three years after accession, foreign entities may establish securities joint ventures (JVs) with a minority equity share for foreign investors to underwrite all shares and corporate and government debt, and trade all these securities except those equity shares restricted to Chinese investors. Also upon accession, foreign entities may establish minority JVs to manage assets of all sorts.

Insurance licenses will be granted on a prudential basis, without numerical restrictions or discretionary economic needs tests. China currently only allows selected foreign companies (including four U.S. companies) to operate in China on a limited basis in only two cities.

Majority equity share for foreign non-life insurance entities will be permitted upon China's accession. Wholly owned subsidiaries will be allowed two years after accession. Life insurance joint ventures will be permitted at 50 percent equity share upon accession.

Easier access to and more control of distribution systems in China allowing U.S. companies to operate commission agents' services, franchising services, wholesaling, retailing and direct sales of their own products in three years post accession for almost all products.

Foreign companies will also be permitted greater control and access to other services related to distribution, including maintenance and repair, rental and leasing, advertising, technical testing and freight inspection, packaging, courier, storage and warehousing, and freight forwarding agency services.

The right to trade (import and export) will be permitted for almost all products within three years of accession. Currently, the right to trade is strictly limited; only companies that receive specific authorization or who import goods to be used in production have such rights.

Telecommunications services are currently not permitted to be supplied by foreigners in China. However, with its accession, China has agreed to allow foreign participation for both value-added and basic services. China has also agreed to undertake all the obligations contained in the WTO Reference Paper on pro-competitive regulatory principles. Telecom services which foreigners can supply under the Agreement include e-mail, voice mail, online information and database retrieval, facsimile, paging, cellular, and internet services via any technology including satellites.

Professional service providers will now be permitted to operate in China and receive national treatment for accounting, auditing, bookkeeping, management consulting, legal, tax consulting, architectural, engineering, and computer services.

The elimination of local content requirements will result in better access for U.S. exports and eliminate unfair incentives or requirements to use domestic goods.

U.S. exports and investments will be free from government-imposed conditions such as technology transfer, research and development in China, and offsets. Upon China's accession, such conditions may only be negotiated between the parties to a contract and not imposed or enforced by the government.

U.S. companies can sell their products in China and not be forced to export a certain percentage back to the United States or elsewhere. This eliminates the non-market incentive to use China as an export platform.

State-owned and state-invested enterprises will be required to buy and sell based on commercial considerations, making the purchase process more market-driven and transparent for U.S. companies and will provide new sales opportunities to U.S. firms.

China has agreed to establish **judicial review** procedures for the prompt review of all administrative actions relating to the implementation of laws, regulations, judicial decisions and administrative rulings related to its WTO obligations. The tribunals will be independent of the agencies entrusted with administrative enforcement.

Greatly improved enforcement of China's commitments through the WTO dispute settlement process. The United States will now have allies in other WTO members to address violations of international trade norms.

Current U.S. practice of using a special, non-market economy methodology when calculating dumping margins in **antidumping investigations** involving imports from China will remain in effect for 15 years. Chinese industries will continue to have the burden of proving to the U.S. government that market economy conditions prevail in their industry to avoid application of this methodology.

China will apply its trade-related laws **uniformly** throughout all of China including land and seaports.

China will be required to apply equally the value-added tax (currently at 17 percent for most products) to domestic goods as well as imports under the WTO **national treatment** provisions.

The United States will have access to a **product-specific safeguard mechanism** for 12 years which will allow the U.S. to address more easily any rapidly increasing Chinese imports in a targeted fashion in cases of actual or threatened market disruption to a U.S. industry.

China has agreed to incorporate into the WTO a **textile-specific safeguard** drawn from the U.S.-China Bilateral Textile Agreement.

¹For more information on tariff reductions, see tariff summary table.

ADDITIONAL INFORMATION AND ASSISTANCE

The reports for each of the 50 states are available at www.chinapntr.gov, as well as supplemental information on the benefits of China's membership in the World Trade Organization for U.S. industry and agriculture. Additional information on agricultural products is available from www.fas.usda.gov and speeches and testimony are provided on www.ustr.gov.

For counseling and assistance regarding exporting to China, call the Trade Information Center at 1-800-USA TRAD(E) or the Agriculture FAS Trade Assistance Office at 202-720-7420.

To discuss problems you are experiencing in exporting to China or a Chinese trade barrier you are encountering that is limiting your ability to export, please contact the Commerce Department's Trade Compliance Center. The fastest means to contact the Trade Compliance Center is the internet at <http://www.mac.doc.gov/tcc>. It can be reached also via e-mail (tcc@ita.doc.gov), fax (202-482-6097), or phone (202-482-1191).

Key Industry Tariff Reductions Resulting from the Agreement

Product Description	Average Base Rate ¹	Average End Rate ²	Percent Change	Product Description	Average Base Rate ¹	Average End Rate ²	Percent Change
Agriculture equipment	11.5	5.7	50.4	Nonferrous metals	9.3	6.6	29.0
Auto parts	23.4	10.0	57.2	Aluminum	14.2	9.4	34.0
Beer	70.0	0	100.0	Oil and fuel	7.4	4.9	33.7
Building materials	16.4	14.1	14.0	Paper and printing machinery	14.3	10.8	24.5
Glass fibers	16.0	7.0	56.2	Photographic equipment	19.4	14.7	24.2
Chemicals	11.1	6.9	37.8	Power generation equipment including batteries	13.4	8.5	36.6
Cosmetics	29.3	11.9	59.3	Precious metals	13.8	11.0	20.0
Fertilizers	5.0	4.0	20.0	Prefabricated buildings	22.0	10.0	54.5
Pharmaceuticals	9.6	4.2	56.2	Pulp, paper and printed material	14.4	5.4	62.5
Soda ash	9.0	5.5	38.8	Railway equipment	5.7	4.4	22.8
Civil aircraft	14.7	8.1	44.9	Recorded media	10.0	6.8	32.0
Compressors and pumps	15.5	9.0	41.9	Rubber products	14.5	11.4	21.4
Construction equipment	13.6	6.3	53.7	Rubber- and plastic-working machinery	15.7	7.7	50.9
Distilled spirits	60.8	34.2	44.0	Scientific and measuring equipment	12.1	6.1	49.6
Engines	12.4	7.9	36.2	Small household appliances	31.2	24.7	20.8
Environmental technologies equipment	13.4	6.9	48.5	Special purpose vehicles	17.4	12.4	28.7
Fish	20.5	11.4	44.3	Specialized machinery	14.0	8.4	40.0
Food processing machinery	13.5	9.8	27.4	Steel	10.3	6.1	40.7
Footwear	25.0	20.8	16.8	Telecommunications equipment not covered under ITA ⁴	24.0	17.2	28.3
Footwear machinery	11.5	8.4	26.9	Optical fibers	13.5	2.5	81.4
Furniture	22.0	0	100.0	Textiles and apparel	27.1	11.7	56.8
Heavy machinery	14.5	7.8	46.2	Synthetic yarn	18.1	5.0	72.3
Husbandry machinery	10.3	7.3	29.1	Toys	23.0	0	100.0
HVAC ³	24.3	15.2	37.4	Trailers	13.8	10.0	27.5
Information technology covered under ITA ⁴	13.5	0	100.0	Trucks	31.5	18.5	41.2
Laboratory machinery	12.9	10.2	20.9	Vending machines	23.0	13.6	40.8
Leather	18.7	16.2	13.3	Welding machines	14.8	9.8	33.7
Machinery parts	8.1	4.7	41.9	Wood	12.5	4.6	63.2
Medical equipment	9.9	4.4	55.5				
Metalworking machinery	15.1	11.4	24.5				
Molds	10.2	7.3	28.4				
Motorcycles	58.3	41.7	28.5				
Motor vehicles	75.9	23.6	68.9				
Passenger motor vehicles	84.1	25.0	70.0				

¹Average 1997–98 applied duties for each product category. Reductions will be made from the 1997–98 base rate for each tariff line. Most cuts will be made in equal annual increments.

²Average end rate for each product category which will be attained once China phases in all duty reductions agreed bilaterally with the United States. All reductions will be completed by January 1, 2008, with 70 percent of all reductions on industrial goods achieved by 2003 and 98 percent of all industrial duty reductions by 2005. China's agreements with other countries may result in lower rates and shorter staging.

³Includes heaters, ventilators, air conditioners, washers, refrigerators, centrifuges/dryers.

⁴WTO Information Technology Agreement (ITA), implemented in July 1997.

Key Agricultural Tariff Reductions Resulting from the Agreement

Product Description	Base Rate 1997-98 ¹	End Rate ²	Percent Change	Product Description	Base Rate 1997-98 ¹	End Rate ²	Percent Change
Beef	45	12	73.3	Pecans	35	10	71.4
Pork	20	12	40.0	Pistachios	35	10	71.4
Poultry	20	10	50.0	Cheese	50	12	76.0
Oranges	40	12	70.0	Lactose	35	10	71.4
Grapefruit	40	12	70.0	Ice cream	45	19	57.8
Lemons	40	12	70.0	Yogurt	50	10	80.0
Apples	30	10	66.7	Hop cone pellets	30	10	66.7
Cherries	30	10	66.7	Hop extracts	20	10	50.0
Grapes	40	13	67.5	Ginseng	40	10	75.0
Pears	30	10	66.7	Soybean flour	40	15	62.5
Peaches	30	10	66.7	Potatoes: Frozen			
Canned peaches	30	10	66.7	hash browns	25	13	48.0
Raisins	40	10	75.0	Potato flour, meal and flakes	30	15	50.0
Orange/grapefruit juices	35	15	57.1	Potato chips	25	15	40.0
Celery	13	10	23.1	Yellow grease	40	10	75.0
Lettuce	16	10	37.5	Soup	45	15	66.7
Cauliflower	13	10	23.1	Pet food	30	15	50.0
Broccoli	13	10	23.1	Wine	65	20	69.2
Frozen mixed vegetables	13	10	23.1	Protein concentrates	45	10	77.8
Frozen sweet corn	13	10	23.1	Water-based drinks with sugar	65	20	69.2
Tomato paste	25	20	20.0	Other water-based drinks	50	35	30.0
Tomato ketchup	30	15	50.0	Cigarettes	65	25	61.5
Almonds	30	10	66.7	Tobacco	40	10	75.0
Hazelnuts	35	10	71.4				

¹Base rate: 1998 current applied duty from which reductions will be made.

²End rate: End rate that will be attained by January 1, 2004, when China finishes phasing in all agricultural duty reductions agreed bilaterally with the United States. China's agreements with other countries may result in lower rates and shorter staging for some products.

Key Agricultural Tariff Rate Quotas (TRQ)

Product Description	Initial TRQ (million metric tons)	2004 TRQ (million metric tons)	Private Share (percent)	1999 Chinese Imports ³ (metric tons)
Wheat	7.3	9.6	10	448,000
Corn	4.5	7.2	25 growing to 40	70,000
Rice				168,000
Short/medium grain	1.3	2.6	50	
Long grain	1.3	2.6	10	
Cotton	0.743	0.9	67	46,000
Soybean oil ⁴	1.71	3.2	50 growing to 90	804,000

³Import data from China Customs Administration, on a calendar year basis.

⁴TRQ quantity and private share will be phased in by 2005. On January 1, 2006, China will eliminate the TRQ and state trading for soybean oil, with nothing but a 9 percent duty remaining.

(Trade Stories continued from page 3)

Worldwide Connections, Inc. (Toledo) is a three-person firm that does 70 percent of its business overseas, according to company president Stanley Zyla. Currently, approximately 15 percent of total revenues come from exports to China, including building materials such as flooring, rubber products, and adhesives. Worldwide Connections operates in dozens of countries around the world, but Mr. Zyla especially values working with Chinese counterparts. He believes that extending permanent NTR to China will ensure that his business there can continue to grow.

Quantum Technologies, Inc. (Twinsburg) is a privately owned company that provides chemical and technology research, wood pulp bleaching, laboratory mixers, and pollution control equipment to the wood pulp and paper industries. Quantum has developed a simulated pulp bleaching system for laboratory use. Quantum has sold several of these systems to China.